What is claimed is:

1. A data processing apparatus, comprising:

a data memory configured to store characteristic definition data defined for at least one data attribute;

a plurality of processing elements each configured to select a set of characteristic definition data from said characteristic definition data from a data stream to be processed and to process data from said data stream according to said set of characteristic definition data; and

a process control apparatus configured to control at least one of:

storing process control data for controlling said plurality of processing elements,

imparting an operation instruction set based on said process control data to each of said plurality of processing elements in common,

imparting said data stream to each of said plurality of processing elements,

sending out said characteristic definition data stored in said data memory to each of said plurality of processing elements, and

outputting processed data from each of said plurality of processing elements.

2. The data processing apparatus according to claim 1, wherein said process control apparatus includes:

a global register configured to store and to impart said process control data to each of said plurality of processing elements in common, and

a processor configured to control at least one of:

writing said process control data into said global register,

imparting said data stream to each of said plurality of processing elements,

sending out said characteristic definition data stored in said data memory to each of said plurality of processing elements,

imparting an operation instruction set based on said process control data to each of said plurality of processing elements in common, and

outputting processed data from each of said plurality of processing elements.

3. The data processing apparatus according to claim 2, further comprising:

a program memory configured to store a process program set for said processor to perform said control.

4. The data processing apparatus according to claim 2, wherein each of said plurality of processing elements includes:

an input data register configured to store data to be processed;

a plurality of character registers each configured to store said characteristic definition data;

an output data register configured to store processed data acquired by processing;

an attribute register configured to store attribute data for said data to be processed; and

a calculator configured to select characteristic definition data to be stored in said character registers, said characteristic definition data being assigned to attribute data stored in said character registers among characteristic definition data corresponding to given attribute data, and to process said data to be processed according to an operation instruction set imparted by said processor based on said process control data and characteristic definition data stored in said character registers.

5. The data processing apparatus according to claim 4, wherein said processor is further configured to control at least one of:

writing a data stream to be processed into said input data register included in each of said plurality of processing elements,

sending out said characteristic definition data stored in said data memory corresponding to each attribute data to said character registers,

writing said process control data into said global register, and

outputting processed data from said output data register.

6. The data processing apparatus according to claim 5, wherein said processor is configured to control at least one of:

sending out sequentially characteristic definition data corresponding to each attribute data from said data memory to said character registers based on said data written into said input data register,

imparting an operation instruction set to said calculator based on said process control data, and

outputting conversion processed data written into said output register by said calculator; and

said calculator is configured, when said processor is sending out characteristic definition data corresponding to attribute data stored in said attribute register from said data memory, to load said characteristic definition data into said character registers, and to perform image data processing according to said operation instruction set using said characteristic definition data loaded in said character registers.

7. The data processing apparatus according to claim 6, wherein:

said characteristic definition data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a data input range into multiple segments, into processed data obtained by processing said input data, and into process parameters for each of said multiple segments;

said processor is further configured, when sending out characteristic definition data corresponding to said each attribute data, to control sending out:

segmented position input image data assigned to said attribute data,

processed data obtained by processing said segmented position input image data, and

process parameters, sequentially in an order of said divided segment to said character registers from said data memory; and

said calculator is configured, when said processor is sending out characteristic definition data, to:

load said segmented position input image data assigned to a segment corresponding to said data written into said input data register among said characteristic definition data corresponding to attribute data stored in said attribute register, processed data obtained by processing said segmented position input image data, and process parameters into said character registers, and

perform data processing according to said operation instruction set on said data written into said input data register using said segmented position input image stored in said character registers, said processed data obtained by processing said segmented position input image data and said process parameters.

8. The data processing apparatus according to claim 4, wherein:

said data to be processed include image data,

said global register is further configured to store attribute detection control data used for controlling data processing for generating attribute data of said image data by said plurality of processing elements, and to impart an operation instruction set in common to said plurality of processing elements, and

said calculator is configured to generate and to subsequently store in said attribute register attribute data of said image data according to said operation instruction set, image data stored in said input data register, and image data assigned to picture elements in a vicinity of noteworthy image data.

9. A data processing apparatus, comprising:

a data memory configured to store characteristic definition data for defining characteristics of data processing for attribute data;

a global register configured to store a conversion program set;

a processor array comprising a plurality of processing elements, each of said plurality of processing elements including:

an input data register configured to store data to be conversion processed,

a plurality of character registers each configured to store conversion characteristic definition data,

an attribute register configured to store attribute data for said data to be conversion processed,

an output data register configured to store processed data acquired by conversion processing, and

a calculator configured to select a set of conversion characteristic definition data for subsequent storage in said character registers, said conversion characteristic definition data being assigned to attribute data stored in said character registers among

conversion characteristic definition data corresponding to attribute data stored in said character registers, and to perform conversion processing on said data to be conversion processed according to a conversion operation instruction set based on said conversion control program and according to conversion characteristic definition data stored in said character registers;

a global processor configured to control at least one of:

writing a data stream to be conversion processed into said input data register included in each of said plurality of processing elements,

sending out said conversion characteristic definition data to said character registers,

imparting an operation instruction set based on said conversion process control program to each calculator in said plurality of processing elements in common, and

outputting processed data from each of output registers; and

a program memory configured to store a process program set for said global processor to perform said control.

10. An image data processing apparatus, comprising:

a data memory configured to store conversion characteristic definition data for defining gamma conversion characteristics of image data for each attribute of said image data;

a processor array comprising a plurality of processing elements, each of said plurality of processing elements including:

an input data register configured to store image data to be conversion processed,

a plurality of character registers each configured to store gamma conversion characteristic definition data read out from said data memory,

an attribute register configured to store attribute data describing image characteristics based on said image data,

an output data register configured to store processed data acquired by conversion processing, and

a calculator configured to generate and to subsequently store in said attribute register attribute data of image data stored in said input data register according to image data stored in said input data register and according to image data assigned to picture elements in a vicinity of noteworthy image data, and to perform conversion processing on said data to be conversion processed according to gamma conversion characteristic definition data stored in said plurality of character registers;

a global register configured to store attribute detection control data for controlling generation of said attribute data in said calculator and of conversion control data for controlling said gamma conversion in said calculator;

a processor configured to control at least one of:

writing image data on one raster into said input data register included in each of said plurality of processing elements,

writing said attribute detection control data and said conversion control data into said global register,

imparting an operation instruction set to said calculator based on said attribute detection control data,

sending out said conversion characteristic definition data corresponding to each attribute data stored in said data memory to said character registers,

imparting an operation instruction set to said calculator based on said conversion control data, and

outputting conversion processed data from said output data register; and

a program memory configured to store a conversion program set for said processor to perform said control.

11. The image data processing apparatus according to claim 10, wherein said processor is configured to:

control sequentially sending out characteristic definition data corresponding to said attribute data from said data memory to said plurality of character registers based on said data written into said input data register;

impart an operation instruction set to said calculator based on conversion control data; and

output conversion processed data written into said output register by said calculator,

wherein said calculator is configured, when said processor is sending out characteristic definition data corresponding to attribute data stored in said attribute register from said data memory, to:

load said conversion characteristic definition data into said plurality of character registers; and

perform conversion processing according to said operation instruction set using said conversion characteristic definition data loaded in said plurality of character registers.

12. The image data processing apparatus according to claim 11, wherein:

said conversion characteristic definition data corresponding to attribute data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a conversion data input range into multiple segments, into processed data obtained by performing conversion processing on said input data, and into conversion parameters for each of said multiple segments,

said processor is configured, when sending out conversion characteristic definition data corresponding to said attribute data, to control sending out segmented position input image data assigned to said attribute data, processed data obtained by performing conversion processing on said segmented position input image data, and process parameters, sequentially in an order of said divided segment from said data memory to said plurality of character registers; and

said calculator is configured, when said processor is sending out characteristic definition data corresponding to attribute data stored in said attribute register from said data memory, to:

load said segmented position input image data assigned to a segment corresponding to said data written into said input data register among said conversion characteristic definition data corresponding to attribute data stored in said attribute register, processed data obtained by performing conversion processing on said segmented position input image data, and process parameters into said plurality of character registers; and

perform data processing according to said operation instruction set on said data written into said input data register using said segmented position input image stored in said character registers, said processed data obtained by processing said segmented position input image data, and said process parameters.

13. An image data processing apparatus, comprising:

a data memory configured to store conversion characteristic definition data for defining gamma conversion characteristics of image data for each attribute of said image data;

a global register configured to store an attribute detection control program for controlling generation of attribute data describing image characteristics of said image data and a conversion control program for controlling gamma conversion on said image data;

a processor array comprising a plurality of processing elements, each of said plurality of processing elements including:

an input data register configured to store image data to be conversion processed,

a plurality of character registers each configured to store conversion characteristic definition data,

an attribute register configured to store attribute data of said image data to be conversion processed,

an output data register configured to store processed data acquired by conversion processing, and

a calculator configured to:

generate and subsequently store in said attribute register attribute data of image data stored in said input data register according to an operation instruction set to said calculator based on attribute detection control data stored in said global register, image data stored in said input data register, and image data assigned to picture elements in a vicinity of noteworthy image data,

select and subsequently store in said attribute register conversion characteristic definition data assigned to attribute data stored in said character registers among conversion characteristic definition data corresponding to attribute data stored in said data memory, and

perform gamma conversion processing on said data to be conversion processed stored in said input data register according to a conversion operation instruction set based on said conversion control program stored in said global register and conversion characteristic definition data stored in said character registers;

a global processor configured to control at least one of:

writing an image data stream into said input data register included in each of said plurality of processing elements,

imparting an operation instruction set based on an attribute detection control program set stored in said global register to each calculator in said plurality of processing elements in common,

sending out said conversion characteristic definition data corresponding to each attribute data stored in said data memory to said character registers,

imparting a further operation instruction set based on a conversion control program stored in said global register to each calculator in said plurality of processing elements in common, and

outputting conversion processed data from said output data register; and

a program memory configured to store a global control program set for said global processor to perform said control.

14. An image processing apparatus, comprising:

an imaging apparatus configured to generate pictorial image data representing a pictorial image; and

the image data processing apparatus according to claim 1 configured to perform picture gamma conversion of said pictorial image data for correcting image distortion caused during imaging.

15. The image processing apparatus according to claim 14, further comprising:

a parallel bus configured to transfer said pictorial image data;

a pictorial image memory;

a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and

a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said imaging apparatus, said image data processing apparatus, and said parallel bus.

16. The image processing apparatus according to claim 15, wherein said pictorial image data control apparatus is configured to control selecting at least one of:

performing inelastic compression on said pictorial image data formed by said imaging apparatus to be output subsequently to said parallel bus,

transforming said pictorial image data to said image data processing apparatus for processed pictorial image data to be performed with inelastic compression and subsequently output to said parallel bus, and

decompressing said pictorial image data on said parallel bus to be transferred subsequently to said image data processing apparatus.

17. An image forming apparatus, comprising:

a printer configured to form a pictorial image represented by pictorial image data on a sheet; and

an image data processing apparatus as recited in claim 1 configured to perform printer gamma conversion of said pictorial image data for forming image data suitably adapted to image formation by said printer.

18. The image forming apparatus according to claim 17, further comprising:

a parallel bus configured to transfer said pictorial image data;

a pictorial image memory;

a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and

a pictorial image data control apparatus configured to control an exchange of said pictorial image data between said image data processing apparatus and said parallel bus.

19. The image processing apparatus according to claim 17, wherein said pictorial image data control apparatus is configured to perform at least one of:

compressing said pictorial image data to be subsequently written into said image memory, and

reading out said pictorial image data from said image memory to subsequently be decompressed,

said pictorial image data being transferred between external units including at least one of a computer, local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus.

20. An image forming apparatus, comprising:

an imaging apparatus configured to generate pictorial image data representing a pictorial image; and

an image data processing apparatus as recited in claim 1 configured to perform data conversion of said pictorial image data for forming images to form images on a sheet by a printer, said printer being configured to form a pictorial image on said sheet.

21. The image forming apparatus according to claim 20, further comprising:

a parallel bus configured to transfer said pictorial image data;

a pictorial image memory;

a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and

a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said imaging apparatus, said image data processing apparatus, and said parallel bus.

22. The image processing apparatus according to claim 20, wherein said pictorial image data control apparatus is configured to perform at least one of:

compressing said pictorial image data to be subsequently written into said image memory; and

reading out said pictorial image data from said image memory to subsequently be decompressed, said pictorial image data being transferred between external units, including at least one of a computer, a local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus.

23. A data processing apparatus, comprising:

first means for storing characteristic definition data defined for each data attribute;

first means for selecting a set of characteristic definition data from said characteristic definition data stored in said first means for storing corresponding to each data and each data attribute out of a data stream to be processed, and for processing said data according to said group of characteristic definition data; and

second means for storing process control data for controlling said processing of said each data, for imparting an operation instruction set based on said process control data to said first means for selecting in common, for imparting each of said data stream to each of said means for selecting, for sending out said characteristic definition data stored in said first means for storing corresponding to said each attribute data stored in said first means for storing for each of first said means for selecting, and for outputting processed data from said first means for selecting.

24. The data processing apparatus according to claim 23, wherein said first means for selecting includes:

third means for storing and for imparting said process control data for controlling said processing of said data to said first means for selecting in common, and

means for controlling at least one of:

writing said process control data into said third means for storing,

imparting each of said data stream to said first means for selecting,

sending out said characteristic definition data stored in said first means for storing corresponding to each data attribute stored in said first means for storing to said first means for selecting,

imparting an operation instruction set based on said process control data to said first means for selecting in common, and

outputting processed data from said first means for selecting.

25. The data processing apparatus according to claim 24, further comprising:

fourth means for storing a process program set for said means for controlling to perform said control.

26. The data processing apparatus according to claim 24, wherein said first means for selecting includes:

fifth means for storing data to be processed;

sixth means for storing said characteristic definition data;

seventh means for storing processed data acquired by processing;

eighth means for storing attribute data for said data to be processed; and

second means for selecting characteristic definition data and for storing said selected characteristic definition data in said sixth means for storing, said characteristic definition data being assigned to an attribute data stored in said eighth means for storing among characteristic definition data corresponding to given attribute data, and for processing said data to be stored in said fifth means for storing according to an operation instruction set imparted by said means for controlling based on said process control data and characteristic definition data stored in said fifth means for storing.

27. The data processing apparatus according to claim 26, wherein said means for controlling controls at least one of:

writing a data stream to be processed into said fifth means for storing included in said first means for selecting,

sending out said characteristic definition data stored in said first means for storing corresponding to each attribute data to said sixth means for storing,

writing said process control data into said third means for storing, and

outputting processed data from said seventh means for storing.

28. The data processing apparatus according to claim 27, wherein said means for controlling controls at least one of:

sequentially sending out characteristic definition data corresponding to each attribute data from said first means for storing to said sixth means for storing based on said data written into said fifth means for storing,

imparting an operation instruction set to said second means for selecting based on process control data, and

outputting conversion processed data written into said seventh means for storing by said second means for selecting; and

said second means for selecting, when said means for controlling is sending out characteristic definition data corresponding to attribute data stored in said eighth means for storing from said first means for storing, loads said characteristic definition data into said sixth means for storing, and performs image data processing according to said operation instruction set using said characteristic definition data loaded in said sixth means for storing.

29. The data processing apparatus according to claim 28, wherein:

said characteristic definition data corresponding to attribute data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a data input range into multiple segments, processed data obtained by processing said input data, and process parameters for each of said multiple segments;

said means for controlling controls, when sending out characteristic definition data corresponding to each attribute data, sending out segmented position input image data assigned to said attribute data, processed data obtained by processing said segmented position input image data, and process parameters, sequentially in an order of said divided segment to said sixth means for storing from said first means for storing; and

said second means for selecting, when said means for controlling is sending out from said first means for storing:

loads said segmented position input image data assigned to a segment corresponding to said data written into said fifth means for storing among said characteristic definition data corresponding to attribute data stored in said eighth means for storing, processed data obtained by processing said segmented position input image data, and process parameters, into said sixth means for storing; and

performs data processing according to said operation instruction set on said data written into said fifth means for storing using said segmented position input image stored in said sixth means for storing, said processed data obtained by processing said segmented position input image data, and said process parameters.

30. The data processing apparatus according to claim 26, wherein:

said data to be processed include image data;

said third means for storing stores attribute detection control data used for controlling data processing for generating attribute data of said image data by first means for selecting, and imparts an operation instruction set in common to said first means for selecting; and

said second means for selecting generates, and subsequently stores in said eighth means for storing attribute data of image data stored in said fifth means for storing according to said operation instruction set, image data stored in said fifth means for storing, and image data assigned to picture elements in a vicinity of noteworthy image data.

31. A data processing apparatus, comprising:

first means for storing characteristic definition data for defining characteristics of data processing for attribute data;

second means for storing for storing a conversion program set;

means for processing, including:

third means for storing data to be conversion processed,

fourth means for storing conversion characteristic definition data,

sixth means for storing attribute data for said data to be conversion processed,

fifth means for storing processed data acquired by conversion processing, and

first means for selecting a set of conversion characteristic definition data to be subsequently stored in said fourth means for storing, said conversion characteristic definition data being assigned to attribute data stored in said fourth means for storing among conversion characteristic definition data corresponding to attribute data stored in said fourth means for storing, and for performing conversion processing on said data to be conversion processed stored in said third means for storing according to a conversion operation instruction set based on said conversion control program and to conversion characteristic definition data stored in said fourth means for storing;

means for controlling writing a data stream to be conversion processed into said third means for storing included in said means for processing, for sending out said conversion characteristic definition data stored in said first means for storing corresponding to said attribute data to said fourth means for storing, imparting an operation instruction set based on said conversion process control program stored in said second means for storing to said first means for selecting in common, and outputting processed data from each of said third means for storing; and

seventh means for storing a process program set for said means for controlling to perform said control.

32. An image data processing apparatus, comprising:

first means for storing conversion characteristic definition data for defining gamma conversion characteristics of image data for each attribute of said image data;

means for processing, including:

second means for storing image data to be conversion processed,

third means for storing gamma conversion characteristic definition data read out from said first means for storing,

fourth means for storing attribute data describing image characteristics revealed by said image data,

fifth means for storing processed data acquired by conversion processing, and

means for generating and for subsequently storing in said fourth means for storing attribute data of image data stored in said second means for storing according to image data stored in said second means for storing and according to image data assigned to picture elements in a vicinity of noteworthy image data, and for conversion processing said data to be conversion processed stored in said second

means for storing according to gamma conversion characteristic definition data stored in said third means for storing;

sixth means for storing attribute detection control data for controlling generation of said attribute data in said means for generating and for storing conversion control data for controlling said gamma conversion in said means for generating;

means for controlling at least one of:

writing image data on one raster into said second means for storing;

writing said attribute detection control data and said conversion control data into said sixth means for storing,

imparting an operation instruction set to said means for generating based on said attribute detection control data,

sending out said conversion characteristic definition data corresponding to each attribute data stored in said first means for storing to said third means for storing,

imparting an operation instruction set to said means for generating based on said conversion control data, and

outputting conversion processed data from said fifth means for storing; and

seventh means for storing a conversion program set for said means for controlling to perform said control.

33. The image data processing apparatus according to claim 32, wherein said means for controlling controls at least one of:

sending out sequentially characteristic definition data corresponding to each attribute data from said first means for storing to said third means for storing based on said data written into said second means for storing,

imparting an operation instruction set to said means for generating based on conversion control data, and

outputting conversion processed data written into said fifth means for storing by said means for generating,

wherein said means for generating, when said means for controlling is sending out characteristic definition data corresponding to attribute data stored in said fourth means for storing from said first means for storing, loads said conversion characteristic definition data into said third means for storing and performs conversion processing according to said operation instruction set using said conversion characteristic definition data loaded in said third means for storing.

34. The image data processing apparatus according to claim 33, wherein:

said conversion characteristic definition data corresponding to attribute data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a conversion data input range into multiple segments, into processed data obtained by performing conversion processing on said input data, and into conversion parameters for each of said multiple segments;

said means for controlling controls, when sending out conversion characteristic definition data corresponding to each attribute data, sending out segmented position input image data assigned to said attribute data, processed data obtained by performing conversion processing on said segmented position input image data, and process parameters, sequentially in an order of said divided segment from said first means for storing to said third means for storing, and

wherein said means for generating, when said means for controlling is sending out from said first means for storing:

loads said segmented position input image data assigned to a segment corresponding to said data written into said second means for storing among said conversion characteristic definition data corresponding to attribute data stored in said fourth means for storing, processed data obtained by performing conversion processing on said segmented position input image data, and process parameters, into said third means for storing; and

performs data processing according to said operation instruction set on said data written into said second means for storing using said segmented position input image stored in said third means for storing, said processed data obtained by processing said segmented position input image data, and said process parameters.

35. An image data processing apparatus, comprising:

first means for storing conversion characteristic definition data for defining gamma conversion characteristics of image data for each attribute of said image data;

second means for storing an attribute detection control program for controlling a generation of attribute data describing image characteristics related to said image data and a conversion control program for controlling gamma conversion on said image data;

means for processing, including:

third means for storing image data to be conversion processed,

fourth means for storing conversion characteristic definition data,

fifth means for storing attribute data of said image data to be conversion processed,

sixth means for storing processed data acquired by conversion processing, and

means for generating and for subsequently storing in said fifth means for storing, attribute data of image data stored in said third means for storing according to

an operation instruction set to said for generating based on attribute detection control data stored in said second means for storing, image data stored in said third means for storing, and image data assigned to picture elements in a vicinity of noteworthy image data, for selecting and for subsequently storing in said fifth means for storing conversion characteristic definition data assigned to attribute data stored in said fourth means for storing among conversion characteristic definition data corresponding to attribute data stored in said first means for storing, and for performing gamma conversion processing on said data to be conversion processed stored in said third means for storing according to a conversion operation instruction set based on said conversion control program stored in said second means for storing and conversion characteristic definition data stored in said fourth means for storing;

means for controlling at least one of:

writing an image data stream into said third means for storing,

imparting an operation instruction set based on an attribute detection control program set stored in said second means for storing to each calculator in common,

sending out said conversion characteristic definition data corresponding to each attribute data stored in said first means for storing to said fourth means for storing,

imparting a further operation instruction set based on said conversion control program stored in said second means for storing to each calculator in common, and

outputting conversion processed data from said sixth means for storing; and

eighth means for storing a global control program set for said means for controlling to perform said control.

36. An image processing apparatus, comprising:

an imaging apparatus configured generate pictorial image data representing a pictorial image; and

the image data processing apparatus recited in claim 1, configured to perform picture gamma conversion of said pictorial image data for correcting image distortion caused during imaging.

37. The image processing apparatus according to claim 36, further comprising:

a parallel bus configured to transfer said pictorial image data;

a pictorial image memory;

a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and

a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said imaging apparatus, said image data processing apparatus, and said parallel bus.

38. The image processing apparatus according to claim 37, wherein said pictorial image data control apparatus is configured to control at least one of:

performing inelastic compression on said pictorial image data formed by said imaging apparatus to be output subsequently to said parallel bus,

transferring said pictorial image data to said image data processing apparatus to process said pictorial image data with inelastic compression and to subsequently output said pictorial image data to said parallel bus, and

decompressing said pictorial image data on said parallel bus to subsequently transfer said pictorial image data to said image data processing apparatus.

39. An image forming apparatus, comprising:

a printer configured to form a pictorial image represented by pictorial image data on a sheet; and

the image data processing apparatus recited in claim 1 configured to perform printer gamma conversion of said pictorial image data for forming image data for use in record outputting adapted to image formation by said printer.

40. The image forming apparatus according to claim 39, further comprising:

a parallel bus for transferring said pictorial image data;

a pictorial image memory;

a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and

a pictorial image data control apparatus configured to control an exchange of said pictorial image data between said image data processing apparatus and said parallel bus.

41. The image processing apparatus according to claim 39, wherein said pictorial image data control apparatus includes the image data processing apparatus recited in claim 17, configured to perform at least one of:

compressing said pictorial image data to be subsequently written into said image memory, and

reading out said pictorial image data from said image memory to subsequently be decompressed,

said pictorial image data being transferred between external units, including at least one of a computer, a local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus.

42. An image forming apparatus, comprising:

an imaging apparatus configured to generate pictorial image data representing a pictorial image; and

the image data processing apparatus recited in claim 1 configured to perform data conversion of said pictorial image data for forming images for use in record outputting to form images on a sheet by a printer, said printer being configured to form a pictorial image represented by said images on said sheet.

43. The image forming apparatus according to claim 42, further comprising:

a parallel bus configured to transfer said pictorial image data;

a pictorial image memory;

a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and

a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said imaging apparatus, said image data processing apparatus, and said parallel bus.

44. The image processing apparatus according to claim 42, wherein said pictorial image data control apparatus includes the image data processing apparatus recited in claim 19, configured to perform at least one of:

compressing said pictorial image data to be subsequently written into said image memory, and

reading out said pictorial image data from said image memory to subsequently be decompressed,

said pictorial image data being transferred between external units, including at least one of a computer, a local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus.